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RISKY AND CAUTIOUS SHIFTS-A FURTHER  
ANALYSIS OF CULTURAL VALUE THEORY

By

Valerio Domenico Carlone

A Thesis  
Submitted to the Faculty of Graduate Studies  
Through the Department of Psychology  
in Partial Fulfillment of the Requirements  
for the Degree of Master of Arts  
at the University of Windsor

Windsor, Ontario, Canada

1971

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## ABSTRACT

A study of group and individual risk-taking behavior, using live-situation items, was undertaken to test the implications of Brown's (1965) cultural value theory. Numerous studies have sought an explanation of risky and cautious shifts. By a risky (cautious) shift on a particular item it is meant that the unanimous group decision is riskier (more cautious) than the mean of the individual group members' initial decisions.

Based on cultural value theory, the major hypothesis of the study predicted that for any item, if all group members were homogeneous with respect to value (valuing either risk or caution), a shift would occur in the direction of the group value, regardless of the history of shifts for the item.

A second hypothesis, related to the subjects' estimate of the decision made by people in general before and after group discussion, predicted that when groups valued risk, subjects relatively cautious in their initial choices would view people in general as more risky after group discussion, also, when groups valued caution, subjects relatively risky in their initial choices would view people in general as more cautious after group discussion.

The study involved two phases. The first phase was conducted in class and consisted of administering an eight-item risk-taking questionnaire to determine which persons valued risk and caution on each of the items. In the second laboratory phase of the study, 10 female and 9 male groups discussed the risk-taking items and arrived at a unanimous decision on each of them.

Although Hypothesis 1 was not supported, Hypothesis 2 did receive partial support. Three possibilities were offered to account for the failure to support Hypothesis 1: the nature of the items used in the study; the small number of groups discussing each item; and possibly the fact that the perceived relative riskiness instrument is a poor measure of value.

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## CHAPTER I

### INTRODUCTION

Group interaction is of great concern to social psychologists. Attention is focused both on the effect of the individual on the group and, likewise, the effect of the group on the individual. One aspect of group behavior which recently has received a great deal of attention involves risk-taking behavior. Until recently it was commonly assumed that groups, such as committees and boards in government and business, favored compromise rather than an increase in audacity. Whyte (1956), for example, argued that the team approach in business enterprises favors conservative action in matters involving risk. Group interaction was thought to inhibit individual daring and risk-taking. Hence, it came as quite a surprise when Stoner (1961) discovered that group decisions were significantly more risky than the mean of the individual group members' private decisions. Stoner's finding generated a great deal of interest in individual and group risk-taking.

Stoner used a set of 12 life-situation problems developed by Kogan and Wallach (1959, 1961). Most studies in risk-taking which followed Stoner employed either the same problems or others of a similar nature. Each of the problems portrays a situation in which the central character confronts a choice between two alternative courses of action whose outcomes differ in their attractiveness and their probability of occurrence. The subject is instructed to assume the role of adviser to the central person and to indicate the minimum probability of success he would require before recommending the more attractive but less probable alternative. Stoner, using male graduate

students of industrial management, employed a simple test-retest design in which individuals first made their decisions in private, then reached unanimous decisions as members of six-person groups, and lastly, once more recorded their individual decisions. A shift to risk was observed both in the groups' unanimous decisions and in the decisions of the subjects after the group discussions.

At first it was believed that the group shift toward risk obtained by Stoner (subsequently labelled the "risky shift") was due to his use of only male subjects and/or to the fact that students of industrial management value risk more than people in general. However, in the decade following Stoner's original study, research consistently demonstrated the validity of the risky-shift phenomenon. As indicated by Stoner (1968), the risky shift has been found to occur with American, English, and Israeli subjects, college students and senior executives, males and females, in hypothetical decision contexts and in situations where one's decisions actually might have positive or aversive consequences. Further, the effect has been obtained in face-to-face discussions and in groups whose members are isolated in separate booths and communicate over an intercom system. The shift has been obtained with or without a consensus requirement in the group discussion.

Four major explanations have been advanced to account for the risky shift: (1) leadership (2) familiarization (3) responsibility diffusion, and (4) cultural value. The leadership hypothesis, advocated by Rim (1964, 1967), maintains that the shift toward risk is due to the leadership of particularly risk-prone individuals who are more influential in group discussions than other individuals. The familiarization hypothesis (Bateson, 1966; Flanders & Thistlethwaite, 1967) claims the risky shift is the consequence of increased comprehension which accompanies the interpolated group discussion. Initially,

persons tend to be somewhat cautious, but when they become more aware of the issues involved in the life-situation problem, their confidence increases, and they become more risky. The diffusion of responsibility hypothesis (Kogan, Wallach & Bem, 1964) maintains that the group process enables each person to feel less personally responsible for decision consequences. This sense of shared responsibility for an unsuccessful outcome allows the group members to be bolder in their decision making.

A complete review of the evidence related to the leadership, familiarization, and responsibility diffusion hypotheses is not within the scope of the present paper. Since this study focuses on the cultural value hypothesis, suffice it to say that the evidence concerning the other three hypotheses has not been favorable. For criticisms of the leadership, familiarization, and responsibility diffusion hypotheses see Stoner and Hoyt (1968), Wallach and Kogan (1967), and Blank (1968), respectively. In addition, a comprehensive review of the evidence pertaining to the major explanations of risk-taking behavior recently was completed by Dion, Baron, and Miller (1970).

Perhaps the most serious deficiency of the leadership, familiarization, and responsibility diffusion hypotheses is their failure to account for those choice-dilemma items leading to cautious shifts and those items which fail to consistently engender shifts in either a risky or cautious direction. Nordhøy (1962) observed that the effects of group discussion were not consistent for all 12 of the items used by Stoner. Six items led to greater risk, while others led to greater caution or did not lead to systematic change.

Nordhøy, who first discovered cautious shifts, also originally formulated the cultural value hypothesis. Nordhøy hypothesized that behavior in the group which is consistent with the dominant or cultural value will be positively reinforced by the group members. The members will express opinions and arguments which are in agreement with these accepted values. Nordhøy

prepared a number of life-situation items on which he felt the cultural values of his subjects would tend to support caution and found on two items that group discussion did lead to significantly more cautious decisions.

Brown (1965) elaborated upon value theory, offering an explanation similar to that of Nordhøy. According to Brown, a story problem involving risk may engage either the value of caution or the value of risk. Whether risk or caution is engaged depends on the cultural value attached to the specific situation. For two reasons, the group decision, in contrast to the mean of the group members' initial decisions, is in the direction of the value engaged. First, the value engaged will influence the flow of information so that more information is offered which supports the value than opposes it. Second, an individual seeks to maintain his self-image. That is, on items where the culture values risk, group members erroneously tend to believe that they are more risky than others. When an individual discovers in the group interaction that others are even more risky than he believed, he shifts his choice to a more risky position in order to maintain his self-image as being more risky than others. Similarly, on items where the culture values caution, individuals tend to become more cautious to maintain their self-image as being more cautious than others.

There has been widespread support for cultural value theory (c.f. Brown, 1965; Madaras & Bem, 1968; Stoner, 1968; Teger & Pruitt, 1967; Vidmar, 1970; Wallach & Wing, 1968; Willems, 1969). Many studies have pitted value theory against one or more of the other explanations of the risky shift. As an example, Vidmar (1970) formed three relatively homogeneous groups consisting of subjects either high, medium, or low on initial risk-taking and compared them with mixed groups composed of two high, one medium, and two low risk-takers.

Groups of all compositions showed risky shifts, but mixed groups showed a significantly greater shift than the more homogeneous groups which did not differ from one another. Also, it was the more conservative members of the mixed groups who shifted the most towards risk as predicted by value theory. Vidmar maintained that all of his results can be explained by Brown's value theory, whereas they are contrary to or cannot be explained by the leadership, familiarization, and diffusion of responsibility hypotheses. For instance, in both the homogeneous and mixed groups, subjects were given an equal opportunity to familiarize themselves and to share responsibility for decisions, and a leader could emerge in both groups.

A number of studies have supported Brown's contention that persons consider themselves at least as risky as others on items evoking risky shifts. Brown (1965) reported that Hinds (1962) asked subjects to guess for some of the Stoner problems what alternative would be chosen by "200 people like you". The subjects consistently guessed that others would choose more cautiously than they did themselves. This finding by Hinds (1962) has been confirmed in several other studies (Brown, 1965; Wallach & Wing, 1968; Willems, 1969). Madaras and Bem (1968) also showed that risk-takers are viewed more favorably than risk-rejectors, giving further support to the conception of risk as a cultural value. It is important to note, however, that the evidence indicates that not all subjects view themselves as more risky than others. For instance, in the study by Willems (1969), while 81% of the subjects viewed themselves as at least as risky as others, 19% viewed themselves as more cautious than others on the same choice-dilemma item.

Also, in line with Brown's view, there is evidence that persons consider themselves more cautious than others on items evoking cautious shifts. In a study by Levinger and Schneider (1969), subjects believed fellow students to

be more conservative than themselves on those Stoner problems which had previously led to risky shifts but not on the problems previously leading to conservative shifts.

In a test of cultural value theory, Stoner (1968) investigated the assumption that widely held values and individuals' perceptions of their own riskiness relative to "other people like them" are important factors in individual and group risk-taking. Stoner used a 12 item life-situation questionnaire which included four risky-shift items used in previous research, the two items from Nordhøy's research that demonstrated cautious shifts, and six new items. Two of the new items were designed to elicit risky shifts, and the other four were developed to favor cautiousness. Stoner predicted that on the risky items individuals would tend to consider themselves more risky than others like them, and when constituted as a group, the risky shift would occur. On the other hand, on the cautious items individuals would consider themselves more cautious than others, and a cautious shift would result. As predicted, the individuals believed they were more risky than others on the risky items and more cautious than others on the cautious items. Significant risky shifts were obtained on the six risky items, and significant cautious shifts were obtained on two of the cautious items. Shifts for three of the four remaining items were in the cautious direction, while one supposedly cautious item yielded a significant risky shift.

Clark, Crockett, and Archer (1970) attempted to show that the risky shift largely is restricted to those subjects who consider themselves relatively risky. From value theory, they hypothesized that subjects who perceive themselves on risky items to be more risky than their peers should change toward risk. However, the relatively few who perceive themselves to be more cautious should not change toward risk. Clark et al. used six choice-

dilemma items that consistently have produced the greatest risky shifts. Three categories of subjects were employed--discussion-risky, discussion-cautious, and control subjects. Discussion-risky subjects were randomly selected from those whose initial responses on at least four of the six items showed that they perceived themselves to be at least as willing as their peers to take risks. Discussion-cautious subjects were selected from those who initially perceived themselves to be more cautious than their peers on at least four of the six items. Control subjects were neither riskier nor more cautious on four of the six items. The results indicated that only discussion-risky groups displayed a significant risky shift. The discussion-cautious and control groups became more risky but not significantly so and did not differ from each other. The results were interpreted as supporting value theory's assumption that the risky shift is dependent upon the person's perception of his own riskiness in relation to others because greater shift toward risk occurred only among subjects who generally perceived themselves to be at least as willing as their peers to take risks.

#### Problem and Hypotheses

Previous studies usually supported the cultural value theory of Brown (1965) in demonstrating that when the majority of persons value risk on an item, risky shifts occur, and when the majority value caution on an item, cautious shifts occur. However, the evidence suggests while most people value either risk or caution on a particular item, there are some who do not share the same value as the majority. Thus, cultural value theory was extended in the following hypothesis:

Hypothesis 1. For any choice-dilemma item, if all the members of a group value risk, the group discussion will lead to a risky shift; whereas, if all



the group members value caution, group discussion will lead to a cautious shift.

Confirmation of Hypothesis 1 would suggest that although cultural value theory can predict the general trend of shifts for a particular item, the value held by a particular group would be a better indicator of the direction of shift for that group.

In testing Hypothesis 1 the present study represents an extension of the work of both Stoner (1968) and Clark et al. (1970). It is important to note, that the present study differed from that of Clark et al. (1970) in several important aspects. Unlike the earlier study, the group members in the present study were homogeneous with respect to value. Although in the study by Clark and his colleagues most group members valued either risk or caution, it was likely that at least one member did not conform to the value of the majority. The presence of one or two deviant members may have mitigated against a shift, especially in instances where the deviant member(s) supported the widely held cultural value. The influence of individual values would be greater in homogeneous groups. Another difference is that in the study by Clark et al. only items that consistently demonstrate the greatest risky shifts were employed. The present study considered group risk-taking on items having histories of cautious shifts, as well as risky shifts.

During the group discussions, the group members learn about the choices of the other members. Some of the members become aware that in comparison with the initial choices of other members of the group, their initial choices deviate in a direction away from the valued choice. For example, a person may value risk but discover that his original choice was cautious relative to the average choice of the group. Hence, as a consequence of the group discussion, one might expect that some group members will change their estimates of

the decision made by other persons like themselves. This led to a second hypothesis.

Hypothesis 2. In cases where the members of a group value risk, members whose initial choices were relatively cautious, will, as a consequence of group discussion, change their estimate of the decision made by people in general in a risky direction; on the other hand, those relatively risky in their initial choices will not change their estimates. Also, in cases where the members of a group value caution, members whose initial choices were relatively risky will, as a consequence of group discussion, change their estimate of the decision made by people in general in a cautious direction; those relatively cautious in their initial choices will not change their estimates.

## CHAPTER II

### METHOD

The study involved two phases. The first phase was conducted in class and consisted of administering an eight-item risk-taking questionnaire. For each item, the subjects were asked to indicate their own choices as well as the choice that they believed a majority of their fellow students would make. The questionnaires were scored, and three items on which there was a sufficient number of subjects valuing both risk and caution were selected. In the second phase of the study, which was conducted in the laboratory, for each item, some groups were comprised in which all the members valued risk and other groups were comprised in which all members valued caution. For those groups valuing risk, a risky shift was predicted, and for groups valuing caution, a cautious shift was predicted, regardless of group sex.

#### Materials

An eight-item risk-taking questionnaire was used (see Appendix A-1). Included in the questionnaire were three items with a history of risky shifts (numbers 1, 3, and 6), three with a history of cautious shifts (numbers 2, 5, and 7) and two items designated as neutral because they did not produce shifts in a consistent direction in previous studies (numbers 4 and 8).<sup>1</sup> On the questionnaire were instructions which were adapted from Wallach and Kogan (1964). Essentially, the subjects were instructed to choose for each risk-taking situation the minimum probability of success that they

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<sup>1</sup>Items 1, 2, 3, 6, and 8 correspond to items 2, 12, 4, 9, and 3, respectively, from Wallach and Kogan (1964). Items 4, 5, and 7 correspond to items 1, 8, and 11, respectively, from Stoner (1968).

would consider acceptable before recommending that the central figure in the situation choose the more attractive but less probable alternative.

A second part of the questionnaire (see Appendix A-2), which was adapted from Wallach and Wing (1968), required the subjects to estimate how a majority of their fellow students would choose on each of the eight risk-taking items.

### Procedure

The first phase of the study consisted of administering the risk-taking questionnaire to students in introductory psychology and introductory sociology classes. Prior to passing out the questionnaire the experimenter said:

My name is Val Carlone. I am a Master's student in psychology. To complete the M.A. degree requirements I am running a study which involves a large number of students. I am here to ask if you would be interested in participating in the study. It involves two phases--the first will be carried out now in class. Some of you who participate today will be randomly invited to participate in the second part which will occur in a week or two. It is important to point out that all of this is entirely voluntary. I recognize that some people would prefer not to participate in an experiment, so please feel free to leave if you wish. Of course, I am very hopeful that you will help me out in this but encourage you to participate today only if you think you would like to come to the second part if asked. The second part will take less than an hour, and a time convenient to you would be selected. I think you will find the study interesting, especially the second phase. Also, I think it is very important that you benefit from it, too, so I promise to inform you at a later date about the purpose of the study and hopefully about its results.

The risk-taking questionnaire then was distributed to the class. The experimenter clarified the more difficult points of the instructions and answered questions which the subjects asked.

When each subject completed the questionnaire, the experimenter handed to him the instructions concerning estimating the choices of the majority of his fellow students. After a subject had finished estimating the choices of his fellow students he was permitted to leave.

Once all of the questionnaire data had been collected and scored, for each item, subjects were classified according to the value they held. A subject was considered as valuing risk (caution) on an item if he perceived himself as more risky (cautious) than the majority of his fellow students. The objective was to form groups so that all of their members held the same value (either risk or caution) for a particular item. From the eight risk-taking items, based on the criterion of a relatively equal proportion of subjects valuing caution and risk on an item, the experimenter selected two items with a history of risky shifts (items 1 and 6) and one item with a history of cautious shifts (item 2). Groups valuing risk and groups valuing caution were selected for item 1, a risky item, and for item 2, a cautious item. In addition, these groups were comprised so that for some of them, all the members held the same value on the second risky item (item 6). Thus, for some groups, the group shifts on two items (either items 1 and 6 or items 2 and 6) were investigated.<sup>2</sup>

The subjects then were contacted by phone and asked to participate in the group discussion phase of the study. For every subject the group discussion phase followed the first phase within a week. Each group was brought into the experimental room and seated around a table. A five-item questionnaire, which included two traditionally neutral items as well as the three critical items, was placed before each group member. The subjects then were instructed (see Appendix A-3) to discuss each item in succession and to come to a unanimous decision as to the minimum probability of success that

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<sup>2</sup>Four groups valued risk on items 1 and 6 while three groups valued caution on items 1 and 6. Also, three groups valued risk on items 2 and 6, and three groups valued caution on items 2 and 6.

the group would consider acceptable before advising the central figure to take the risky alternative.<sup>3</sup> The instructions were adapted from Flanders and Thistlethwaite (1967). Next the subjects were asked to again indicate their personal choices on each item (see Appendix A-4).

Upon completion of their personal choices the group members were instructed (see Appendix A-5) to indicate for each item the choice that they believed the majority of their fellow students would make.

When the latter questionnaire was completed by all the group members, the experimenter told the group that each member would be informed by mail about the purpose and results of the study. The group then was dismissed.

### Subjects

The original sample of subjects included 114 males and 113 females enrolled in either introductory psychology or introductory sociology courses at the University of Windsor. From the original sample, 38 males and 41 females were selected on the basis of their responses to the initial eight-item questionnaire.<sup>4</sup> The subjects were assigned to one of 19 experimental groups. Originally, five persons were scheduled to participate in each group. However, the failure of some to attend the group discussion phase resulted in less than five members for some groups. Among the males there were five five-member, one four-member, and three three-member groups. Among the females there were three five-member, five four-member, and two three-member groups.

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<sup>3</sup>The neutral items were always discussed first and third. The second item discussed was always an item on which the group was matched for value. If the group was matched on two items, these items were discussed second and fourth.

<sup>4</sup>Previous studies have reported that risky and cautious shifts occur regardless of the sex of the subjects.

## CHAPTER III

### RESULTS

The data in Tables 1 and 2 pertain to the major hypothesis of this study, (Hypothesis 1) which stated that for any choice-dilemma item if all the members of a group value risk, group discussion will lead to a risky shift; whereas, if all the group members value caution, group discussion will lead to a cautious shift.

Table 1 provides the information pertaining to the group shifts. For a particular item, the degree and direction a group shifted was calculated by subtracting the mean of the individual group members' initial decisions from the unanimous group decision. A t-test was used to determine whether the difference scores were significantly different from zero.<sup>5</sup> Table 1 shows that only one significant group shift took place. The shift occurred on item 6 for those groups valuing caution and, contrary to the hypothesis, was in the risky direction. Thus, the results pertaining to group shifts clearly do not support Hypothesis 1.

Table 2 presents the information regarding the individual shifts. Individual shifts were calculated by subtracting the mean of the group members' private decisions from the mean of their postdiscussion decisions. Again t tests were used to determine if the shifts were significant. Inspection of Table 2 shows that, just as for the group shifts, the results regarding individual shifts do not support Hypothesis 1. Only one significant shift occurred, though in a direction opposite to the hypothesis.

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<sup>5</sup>All significance levels cited in this study are based on two-tailed tests because upon inspection of the data many of the obtained results were not in the predicted direction.

Table 1  
Summary of Group Shifts

Item	Item history	No. of groups	Predicted shift	Mean shift <sup>a</sup>	<u>t</u>
1	risky	6	risky	1.98	1.79
		4	cautious	-0.13	0.23
2	cautious	5	risky	1.00	1.24
		5	cautious	-0.20	0.38
4	neutral	19	none	0.35	1.06
6	risky	7	risky	-0.17	0.33
		6	cautious	-0.92	2.96**
8	neutral	19	none	-0.35	0.34

<sup>a</sup>A positive number indicates a cautious shift, and a negative number indicates a risky shift.

\*\*p < .05



Table 2  
Summary of Individual Shifts

Item	Item history	N	Group value and predicted shift	Mean shift <sup>a</sup>	<u>t</u>
1	risky	26	risky	2.07	3.88***
		16	cautious	-0.19	0.36
2	cautious	20	risky	0.90	1.62
		20	cautious	0.25	0.56
4	neutral	79	none	0.21	0.80
6	risky	31	risky	-0.22	0.54
		24	cautious	-0.79	1.98*
8	neutral	79	none	-0.68	1.86

<sup>a</sup>A positive number indicates a cautious shift, and a negative number indicates a risky shift.

\* $p < .10$

\*\*\* $p < .01$

The data in Tables 3 and 4 pertain to Hypothesis 2 which stated that in cases where the members of a group value risk (caution), members whose initial choices were relatively cautious (risky), will, as a consequence of group discussion, change their estimate of the majority in a risky (cautious) direction; on the other hand, those relatively risky (cautious) in their initial choices will not change their estimates.

Group members who fell above the group's mean on a particular item made a relatively cautious initial decision, whereas those below the group mean made a relatively risky initial decision. Table 3 lists the changes in the estimates of the majority decisions for the group members who fell above the mean of their group's initial decisions. Similarly, Table 4 lists the shifts for those below the group mean on their initial decisions. Shifts for subjects falling at the group mean were not computed.

As predicted in Hypothesis 2, Table 3 shows that those subjects who valued risk but were relatively cautious (i.e. fell above the group mean) in their initial decisions significantly changed their estimates of their peers' choice in a risky direction on item 6, and for item 2 the change was marginally significant. For item 1, there was not a significant change. For subjects valuing caution on items 2 and 6, as predicted, there was not a significant change. However, for item 1 the subjects valuing caution unexpectedly became significantly more cautious in their estimate of the majority.

The results in Table 4 also provide partial support for Hypothesis 2 concerning those subjects below the mean of the group's initial decisions (i.e. those subjects who were risky relative to other members of the group). As predicted, those subjects valuing caution became more conservative in their estimates of the majority on items 1 and 6 but not on item 2. However,

Table 3  
Summary of Changes in Individual Estimates of Majority  
Decisions For Those Above the Mean of Initial Decisions

Item	Item history	Group value	N	Predicted change	Mean change <sup>a</sup>	<u>t</u>
1	risky	risk	14	risky	- .09	0.13
		caution	8	none	1.25	3.42**
2	caution	risk	11	risky	- .91	2.19*
		caution	10	none	.50	0.81
6	risky	risk	14	risky	-2.64	4.06***
		caution	11	none	0.00	0.00

Note: A subject who fell above the group mean made a cautious choice relative to the group as a whole.

<sup>a</sup>A positive number indicates a cautious change, and a negative number indicates a risky change.

\*p < .10

\*\*p < .05

\*\*\*p < .01

Table 4  
Summary of Changes in Individual Estimates of Majority Decisions  
For Those Below the Mean of Initial Decisions

Item	Item history	Group value	N	Predicted change	Mean change <sup>a</sup>	<u>t</u>
1	risky	risk	12	None	1.59	2.22**
		caution	8	cautious	2.75	4.44***
2	cautious	risk	9	none	0.10	0.17
		caution	6	cautious	2.00	0.81
6	risky	risk	16	none	-1.12	1.76*
		caution	11	cautious	2.36	4.81***

Note: A subject who fell below the group mean made a risky choice relative to the group as a whole.

<sup>a</sup>A positive number indicates a cautious change, and a negative number indicates a risky change.

\*p < .10

\*\*p < .05

\*\*\*p < .01

concerning those subjects who valued risk and for whom no shift was predicted, the results show that they changed their estimates in the cautious direction on item 1 and in the risky direction (at a marginally significant level) on item 6.

Table 5 summarizes the data pertaining to the difference between an individual's initial decision on each risk-taking item and his initial estimate of the decision made by the majority of his fellow students. According to cultural value theory, on an item which commonly shifts in a risky direction, people tend to perceive themselves as riskier than others like them, while on a cautious item people tend to perceive themselves as more cautious than others. In Table 5 the male and female data are listed separately. The only significant differences were on items 1, 3, and 6 where the males perceived themselves as significantly more risky than their reference group. On item 2, females perceived themselves as more cautious (at a marginal level of significance) than their reference group.

Table 5  
Comparison of Individual Riskiness With Estimated  
Riskiness of Majority, for Females-113

Item	Item history	Mean difference <sup>a</sup>		<u>t</u>	
		Male	Female	Male	Female
1	risky	0.59	-0.25	2.78***	1.11
2	cautious	-0.13	-0.40	0.56	1.74*
3	risky	0.77	0.12	3.01***	0.47
4	neutral	-0.08	-0.33	0.42	1.44
5	cautious	0.01	0.13	0.09	0.59
6	risky	0.60	0.06	2.81***	0.26
7	cautious	0.27	-0.19	0.71	0.93
8	neutral	0.39	-0.10	1.36	0.50

<sup>a</sup>A positive sign indicates subjects considered themselves more risky than others, and a negative sign indicates subjects considered themselves more cautious than others (N for males-114, N for females-113).

\*p < .10

\*\*p < .05

\*\*\*p < .01

## CHAPTER IV

### DISCUSSION

As Dion et al. (1970) conclude in their review article, the experimental evidence tended to be favorable concerning Brown's (1965) cultural value theory which essentially states that most information in a group discussion will favor the value engaged by the item and that group members will seek to maintain their self-image as conforming more to the value than their peers. The major hypothesis of this study, Hypothesis 1, appears to be a logical extension of cultural value theory. Hypothesis 1 predicted that for any risk-taking item, if all the members value risk, a risky shift will occur, whereas, if all the members value caution, a cautious shift will occur. However, the results regarding both group shifts and individual shifts clearly do not support Hypothesis 1. In fact, only three shifts occurred, and they were directly opposite to those which were predicted.

It is interesting to note that in spite of the failure to confirm Hypothesis 1, Hypothesis 2 did receive some support. Essentially, Hypothesis 2 predicted that for groups valuing risk (caution) those subjects relatively cautious (risky) in their initial choices would regard the majority as more risky (cautious) after group discussion than before the discussion. The results indicate that these predictions generally were supported. Evidently, group discussion induced the subjects to change their estimates of the decision made by the majority. It appears that the subjects no longer regarded their initial estimates of the majority as accurate.

With regard to the comparison of the subjects' initial choices with

their estimate of the choices of others, the findings are partially consistent with those of previous studies. Previous studies have shown that on risky (cautious) items people tend to perceive themselves as more risky (cautious) than their peers. Table 5 shows, as expected, that on the three items with a history of risky shifts, males perceived themselves as more risky than the majority of their fellow students. In addition, concerning the neutral items, the failure to obtain significant differences also was expected. However, concerning the cautious items, only one of the six differences (for females on item 2) was in the expected direction (at a marginal level of significance). For the cautious items, no significant differences were found. While differences were expected, it should be noted that the evidence regarding differences between one's choice and one's estimate of the choice of others has been stronger for risky items than for cautious items.

The results of the present study pertaining to Hypothesis 1 do not correspond with those of Stoner (1968) and Clark et al. (1970). Stoner (1968) reported significant risky shifts on all the items where the majority of individuals believed they were more risky than others. On the five items where individuals tended to believe they were more cautious than others, two significant cautious shifts and three shifts in the cautious direction were obtained. Clark et al. (1970) obtained significant risky shifts on six items when the majority valued risk. However, when the majority valued caution on the same items no significant shifts were obtained.

Keeping the findings of Stoner (1968) and Clark et al. (1970) in mind, both of which generally are consistent with the literature and value theory, the complete failure to support Hypothesis 1 is somewhat mystifying. It is especially difficult to interpret the failure to obtain risky (cautious)



shifts on items with a history of risky (cautious) shifts when all the members of the group valued risk (caution).. One possibility is that there was a procedural flaw. However, the general support for Hypothesis 2 and the relative consistency of the comparison of individual choices with the estimates of others with previous studies suggests a reliable procedure.

It may very well be that the unexpectedly few shifts on the critical items in this study were due to the choice of items and to the paucity of groups used in the analyses. In selecting the three critical items, it was reasoned that the probability of obtaining shifts in both directions would be enhanced if the items were not among those which had the strongest history of shifts in a particular direction. For example, a "weak" risky item is one for which most, but not all, studies have shown significant risky shifts, and usually the shifts reported are not as large as with other risky items. Thus, the fact that two "weak" risky and one "weak" cautious items were chosen for this study may have mitigated against the chance of obtaining significant shifts.

Perhaps the results of this study become even more understandable if one considers the findings of Levinger and Schneider (1968). On nine of the twelve items used by Wallach and Kogan (1964), Levinger and Schneider (1969) found that subjects consistently perceived themselves as more risky than their peers and also admired a choice more risky than their own. However, not all items on which risk was admired had, in previous research, shown strong and consistent risky shifts; nor on those items where previous studies have consistently found such shifts, did they find the greatest admiration for risk.

Dion et al. (1970) also argue that perceived relative riskiness has

little bearing on risky and cautious shifts. Dion et al. (1970) support their contention by referring to the results of a study by Teger and Pruitt (1967). From the fact that persons tend to perceive themselves as riskier than their peers on risky items, Teger and Pruitt (1967) reasoned the difference between one's initial risk preferences and those risk preferences attributed to others should predict the amount of risky-shift. Their logic rested on the unidirectional social comparison process implicit in the cultural value explanation. They assumed that the more risky (cautious) than others one initially thinks he is, the more shifting he has to do when he finds that he is performing in an average fashion. However, only weak non-significant correlations were found between perceived relative riskiness and risky shifts.

#### Conclusion

It is difficult to reconcile the results of this study with the experimental evidence. It appears that the major hypothesis was inadequately tested due to the choice of items and also due to the fact that there were very few groups valuing risk or caution on any item. It tentatively may be concluded that the perceived relative riskiness instrument is a poor measure of value which would also account for the failure to support the major hypothesis.

APPENDIX A  
QUESTIONNAIRES

## APPENDIX A-1

## Life-Situation Instrument

Name \_\_\_\_\_ Phone \_\_\_\_\_  
 Sex \_\_\_\_\_ Course \_\_\_\_\_  
 Age \_\_\_\_\_ Instructor \_\_\_\_\_  
 Windsor \_\_\_\_\_ Home \_\_\_\_\_  
 Address \_\_\_\_\_ Address \_\_\_\_\_  
 (If different than Windsor address)

## INSTRUCTIONS

On the following pages you will find a series of situations that are likely to occur in everyday life. The central person in each situation is faced with a choice between two alternative courses of action, which we might call X and Y. Alternative X is more desirable and attractive than alternative Y, but the probability of attaining or achieving X is less than that of attaining or achieving Y.

For each situation on the following pages, you will be asked to indicate the minimum odds of success you would demand before recommending that the more attractive or desirable alternative X, be chosen.

Read the following example very carefully and if you don't understand what you are required to do, please ask before you begin the other item. You do not have to answer the sample item.

Sample item: Mr. G, a competent chess player, is participating in a national chess tournament. In an early match he draws the top-favored player in the tournament as his opponent. Mr. G has been given a relatively low ranking in view of his previous tournaments. During the course of his play with the top-favored man, Mr. G notes the possibility of a deceptive though risky maneuver which might bring him a quick victory. At the same time, if the attempted maneuver should fail, Mr. G would be left in an exposed position and defeat would almost certainly follow.

Imagine that you are advising Mr. G. Listed on the following page are several probabilities or odds that Mr. G's deceptive play would succeed.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR THE RISKY PLAY IN QUESTION TO BE ATTEMPTED.

- ☐ The chances are 1 in 10 that the play would succeed.
- ☐ The chances are 2 in 10 that the play would succeed.
- ☐ The chances are 3 in 10 that the play would succeed.
- ☐ The chances are 4 in 10 that the play would succeed.
- ☐ The chances are 5 in 10 that the play would succeed.
- ☐ The chances are 6 in 10 that the play would succeed.
- ☐ The chances are 7 in 10 that the play would succeed.
- ☐ The chances are 8 in 10 that the play would succeed.
- ☐ The chances are 9 in 10 that the play would succeed.
- ☐ The chances are 10 in 10 that the play would succeed.

For example, if you make a choice of 2 in 10, it means that you would insist that there be at least 20% chance for the play to be successful before recommending that Mr. G attempt the risky play. Similarly, if you make a choice of 9 in 10, you are insisting that there be at least 90% chance of success before recommending that Mr. G attempt the play, and so on.

Now, please read each situation carefully before giving your judgement. Try to place yourself in the position of the central person in each of the situations. Please do not omit any questions. Indicate your choice with a check mark (✓).

WHEN YOU HAVE FINISHED ANSWERING ALL THE ITEMS, PLEASE RAISE YOUR HAND SO THAT FURTHER INSTRUCTIONS CAN BE ADMINISTERED TO YOU.

1. Mr. B, a 45-year-old accountant, has recently been informed by his physician that he has developed a severe heart ailment. The disease would be sufficiently serious to force Mr. B to change many of his strongest life habits-reducing his work load, drastically changing his diet, giving up favorite leisure time pursuits. The physician suggests that a delicate medical operation could be attempted which, if successful, would completely relieve the heart condition. But its success could not be assured, and in fact, the operation might prove fatal.

Imagine that you are advising Mr. B. Listed below are successful probabilities or odds that the operation will prove successful.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR THE OPERATION TO BE PERFORMED.

- ☐ The chances are 1 in 10 that the operation will be a success.
- ☐ The chances are 2 in 10 that the operation will be a success.
- ☐ The chances are 3 in 10 that the operation will be a success.
- ☐ The chances are 4 in 10 that the operation will be a success.
- ☐ The chances are 5 in 10 that the operation will be a success.
- ☐ The chances are 6 in 10 that the operation will be a success.
- ☐ The chances are 7 in 10 that the operation will be a success.
- ☐ The chances are 8 in 10 that the operation will be a success.
- ☐ The chances are 9 in 10 that the operation will be a success.
- ☐ The chances are 10 in 10 that the operation will be a success.

2. Mr. M is contemplating marriage to Miss T, a girl whom he has known for a little more than a year. Recently, however, a number of arguments have occurred between them, suggesting sharp differences of opinion in the way each views certain matters. Indeed, they decide to seek professional advice from a marriage counselor as to whether it would be wise for them to marry. On the basis of these meetings with a marriage counselor, they realize that a happy marriage, while possible, would not be assured.

Imagine that you are advising Mr. M and Miss T. Listed below are several probabilities or odds that their marriage would prove to be a happy and successful one.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR MR. M AND MISS T TO GET MARRIED.

- ☐ The chances are 10 in 10 that the marriage would be happy and successful.
- ☐ The chances are 9 in 10 that the marriage would be happy and successful.
- ☐ The chances are 8 in 10 that the marriage would be happy and successful.
- ☐ The chances are 7 in 10 that the marriage would be happy and successful.
- ☐ The chances are 6 in 10 that the marriage would be happy and successful.
- ☐ The chances are 5 in 10 that the marriage would be happy and successful.
- ☐ The chances are 4 in 10 that the marriage would be happy and successful.
- ☐ The chances are 3 in 10 that the marriage would be happy and successful.
- ☐ The chances are 2 in 10 that the marriage would be happy and successful.
- ☐ The chances are 1 in 10 that the marriage would be happy and successful.

3. Mr. D is the captain of College X's football team. College X is playing its traditional rival, College Y, in the final game of the season. The game is in its final seconds, and Mr. D's team, College X, is behind in the score. College X has time to run one more play. Mr. D, the captain, must decide whether it would best to settle for a tie score with a play which would be almost certain to work or, on the other hand, should he try a more complicated and risky play which could bring victory if it succeeded, but defeat if not.

Imagine that you are advising Mr. D. Listed below are several probabilities or odds that the risky play will work.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR THE RISKY PLAY TO BE ATTEMPTED.

- ☐ The chances are 1 in 10 that the risky play will work.
- ☐ The chances are 2 in 10 that the risky play will work.
- ☐ The chances are 3 in 10 that the risky play will work.
- ☐ The chances are 4 in 10 that the risky play will work.
- ☐ The chances are 5 in 10 that the risky play will work.
- ☐ The chances are 6 in 10 that the risky play will work.
- ☐ The chances are 7 in 10 that the risky play will work.
- ☐ The chances are 8 in 10 that the risky play will work.
- ☐ The chances are 9 in 10 that the risky play will work.
- ☐ The chances are 10 in 10 that the risky play will work.

4. Mr. A, a 45-year-old dentist with two children in high school, has recently been informed by his physician that he has a partially plugged artery in his right arm. The condition causes continuous pain, but he is able to carry on his work with no reduction in skill. The physician informs Mr. A that there is a new surgical operation which, if successful, would completely relieve the condition. If the operation failed, his hand would be left useless, and it would be impossible for him to go on with his work as a dentist.

Imagine that you are advising Mr. A. Listed below are several probabilities or odds that the operation will prove successful.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR THE OPERATION TO BE PERFORMED.

- ☐ The chances are 10 in 10 that the operation will be a success.
- ☐ The chances are 9 in 10 that the operation will be a success.
- ☐ The chances are 8 in 10 that the operation will be a success.
- ☐ The chances are 7 in 10 that the operation will be a success.
- ☐ The chances are 6 in 10 that the operation will be a success.
- ☐ The chances are 5 in 10 that the operation will be a success.
- ☐ The chances are 4 in 10 that the operation will be a success.
- ☐ The chances are 3 in 10 that the operation will be a success.
- ☐ The chances are 2 in 10 that the operation will be a success.
- ☐ The chances are 1 in 10 that the operation will be a success.

5. Mr. and Mrs. E have been attempting to have a child for a number of years. Mrs. E is now pregnant but a complication has arisen. The doctor has advised Mr. and Mrs. E that if the pregnancy is allowed to progress, Mrs. E's life will be in danger. If further complications do develop, the doctor will not be able to save the child and may not be able to save Mrs. E. If the pregnancy is terminated, at this time, it will be impossible for Mrs. E to become pregnant again.

Imagine that you are advising Mr. and Mrs. E. Listed below are several probabilities that no further complications will occur during Mrs. E's pregnancy.

PLEASE CHECK THE LOWEST PROBABILITY OF THE OCCURENCE OF NO ADDITIONAL COMPLICATIONS THAT YOU WOULD CONSIDER ACCEPTABLE FOR MR. AND MRS. E TO ALLOW THE PRGNANCY TO PROGRESS.

- ☐ The chances are 1 in 10 that further complications will not arise.
- ☐ The chances are 2 in 10 that further complications will not arise.
- ☐ The chances are 3 in 10 that further complications will not arise.
- ☐ The chances are 4 in 10 that further complications will not arise.
- ☐ The chances are 5 in 10 that further complications will not arise.
- ☐ The chances are 6 in 10 that further complications will not arise.
- ☐ The chances are 7 in 10 that further complications will not arise.
- ☐ The chances are 8 in 10 that further complications will not arise.
- ☐ The chances are 9 in 10 that further complications will not arise.
- ☐ The chances are 10 in 10 that further complications will not arise.

6. Mr. J is an American captured by the enemy in World War II and placed in a prisoner-of-war camp. Conditions in the camp are quite bad, with long hours of hard physical labor and a barely sufficient diet. After spending several months in this camp, Mr. J notes the possibility of escape by concealing himself in a supply truck that shuttles in and out of the camp. Of course, there is no guarantee that the escape would prove successful. Recapture by the enemy could well mean execution.

Imagine that you are advising Mr. J. Listed below are several probabilities or odds of a successful escape from the prisoner-of-war camp.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR AN ESCAPE TO BE ATTEMPTED.

- ☐ The chances are 1 in 10 that the escape would succeed.
- ☐ The chances are 2 in 10 that the escape would succeed.
- ☐ The chances are 3 in 10 that the escape would succeed.
- ☐ The chances are 4 in 10 that the escape would succeed.
- ☐ The chances are 5 in 10 that the escape would succeed.
- ☐ The chances are 6 in 10 that the escape would succeed.
- ☐ The chances are 7 in 10 that the escape would succeed.
- ☐ The chances are 8 in 10 that the escape would succeed.
- ☐ The chances are 9 in 10 that the escape would succeed.
- ☐ The chances are 10 in 10 that the escape would succeed.



7. Mr. K has a well paying job with a large company. He has been married for six months and his wife has just become pregnant. For a number of years he has spent many of his summer weekends racing sports cars. He enjoys the sport very much. He is a good driver and although he races purely for the excitement and fun of the sport, he does win enough to cover all of his racing expenses. Mr. K has never been in a racing accident, but realizes that such accidents, although rarely fatal for the type of races he enters, can still be quite serious. He is deciding whether or not to give up racing.

Imagine that you are advising Mr. K. Listed below are several probabilities or odds that Mr. K will not be involved in any racing accidents if he continues to pursue the sport.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR MR. K TO CONTINUE TO RACE.

- ☐ The chances are 10 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 9 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 8 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 7 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 6 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 5 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 4 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 3 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 2 in 10 that Mr. K will not be involved in any racing accidents.
- ☐ The chances are 1 in 10 that Mr. K will not be involved in any racing accidents.

8. Mr. C, a married man with two children, has a steady job that pays him about \$6,000 per year. He can easily afford the necessities of life, but few of the luxuries. Mr. C's father, who died recently, carried a \$4,000 life insurance policy. Mr. C would like to invest this money in stocks. He is well aware of the secure "blue-chip" stocks and bonds that would pay approximately 6% on his investment. On the other hand, Mr. C has heard that the stocks of a relatively unknown Company X might double their present value if a new product currently in production is favorably received by the buying public. However, if the product is unfavorably received, the stocks would decline in value.

Imagine that you are advising Mr. C. Listed below are several probabilities or odds that Company X stocks will double their value.

PLEASE CHECK THE LOWEST PROBABILITY THAT YOU WOULD CONSIDER ACCEPTABLE FOR MR. C TO INVEST IN COMPANY X STOCK.

- ☐ The chances are 1 in 10 that the stocks will double their value.
- ☐ The chances are 2 in 10 that the stocks will double their value.
- ☐ The chances are 3 in 10 that the stocks will double their value.
- ☐ The chances are 4 in 10 that the stocks will double their value.
- ☐ The chances are 5 in 10 that the stocks will double their value.
- ☐ The chances are 6 in 10 that the stocks will double their value.
- ☐ The chances are 7 in 10 that the stocks will double their value.
- ☐ The chances are 8 in 10 that the stocks will double their value.
- ☐ The chances are 9 in 10 that the stocks will double their value.
- ☐ The chances are 10 in 10 that the stocks will double their value.

NOW THAT YOU HAVE FINISHED ANSWERING THE ITEMS, PLEASE RAISE YOUR HAND SO THAT FURTHER INSTRUCTIONS CAN BE ADMINISTERED TO YOU.

## APPENDIX A-2

Instructions About Estimating  
the Choices of Others

You have just finished describing the odds for success that you would consider acceptable. Now reread each situation and indicate the answers which you believe a majority of your fellow students here would mark for each item. For each situation, indicate the lowest odds which the majority of your fellow students would want before advising that the central person choose the more attractive alternative. Write an "M" on the line that corresponds to the choice that you believe the majority of your fellow students would make.

## APPENDIX A-3

## Instructions for the Group Discussion

You are all familiar with the questionnaire which you have in front of you now. This time, however, we would like you to work as a group, that is, discuss in succession each of the issues among yourselves, arriving at a unanimous group decision for each. Please note that this decision is not to be reached by a majority vote, but by a consensual agreement among the group members, i.e. you must all agree. I would further like to point out that it is not your task to decide what the odds might actually be in a life situation, but to consider the issue and decide upon the lowest odds of success you would consider acceptable, before advising the central figure to undertake the risky alternative.

Before beginning the discussion of each item, I would like one of the group members (each member in turn) to read the situations aloud while the others follow silently. You will be allowed approximately 5 minutes discussion per item. When the decision is reached, you are to mark the group decision (with a "G") on each of your scoring sheets, in order to keep a record of the group's decisions. Incidentally, all discussions will be recorded on tape.

I am not going to participate in the discussion although I will remain here to answer any procedural questions that may arise. Are there any questions? All right, begin.

## APPENDIX A-4

Post-group Discussion Instructions  
about Personal Choices

Now I want you to go back over each of these situations and indicate your own personal decision with a "P". It is quite natural that some further thoughts have occurred to you since you indicated your reactions to the situations the first time. You need not consider yourself bound by any of the past decisions-your choice now may either differ or be similar to your previous choice. Remember, indicate your present decision with a "P".

## APPENDIX A-5

Post-group Discussion Instructions  
about Estimating the Choices of Others

Please indicate once more the answer that you believe a majority of your fellow students would make for each item. Your present estimate can either agree with or differ from your previous estimate of the majority's opinion. Please write an "O" on the line that corresponds to the choice that you now believe the majority of your fellow students would make.

APPENDIX B  
RAW DATA BY EXPERIMENTAL CONDITION

## Raw Data by Experimental Condition

Item No. 1 (risky); subjects value risk

Group	Subject	P <sub>1</sub>	P <sub>2</sub>	G	M <sub>1</sub>	M <sub>2</sub>
1	1	3	3		5	5
	2	5	5		7	3
	3	5	5	5	7	8
	4	5	7		7	8
	5	6	6		8	5
2	6	4	8		5	9
	7	3	9		5	8
	8	5	8	8	6	8
	9	3	7		5	8
	10	1	9		4	8
11	45	1	1		5	6
	46	8	9	6	9	8
	47	4	6		5	7
12	48	3	3		9	5
	49	7	5		9	7
	50	4	3	3	5	9
	51	8	9		9	8
	52	5	3		7	5
18	72	2	8		3	6
	73	1	7		5	7
	74	5	8	8	7	8
	75	7	8		8	8
	76	8	8		9	8
19	77	4	8		5	7
	78	1	7	8	6	9
	79	5	7		6	6

Note:

P<sub>1</sub> - personal decision prior to group discussionP<sub>2</sub> - personal decision after group discussion

G - unanimous group decision

M<sub>1</sub> - estimate of majority prior to group discussionM<sub>2</sub> - estimate of majority after group discussion



## Item No. 1 (risky); subjects value caution

Group	Subject	P1	P2	G	M1	M2
4	15	7	9	9	3	8
	16	9	9		6	9
	17	9	9		5	7
	18	6	9		5	9
5	19	9	6	7	7	8
	20	10	10		6	7
	21	7	7		5	4
	22	5	8		4	7
13	53	8	9	9	5	8
	54	8	9		6	8
	55	9	9		7	9
14	56	7	7	6	3	6
	57	9	5		5	5
	58	7	6		4	7
	59	8	7		6	7
2	60	8	4		7	7

## Item No. 2 (cautious); subjects value risk

Item No.

6	23	7	7	7	9	8
	24	4	7		6	4
	25	4	4		5	5
	26	8	7		6	6
	27	2	6		4	8
7	28	5	4	3	7	7
	29	7	5		5	4
	30	6	3		7	5
	31	5	3		9	5
	32	1	2		4	2
8	33	10	10	5	5	6
	34	1	4		3	5
	35	3	8		8	7
16	65	2	3	8	3	4
	66	8	8		9	8
	67	8	7		9	9
	68	5	9		8	7
19	77	3	9	8	7	7
	78	7	7		8	8
	79	8	9		9	7

## Item No. 2 (cautious); subjects value caution

Group	Subject	P <sub>1</sub>	P <sub>2</sub>	G	M <sub>1</sub>	M <sub>2</sub>
3	11	7	6	7	6	6
	12	5	8		4	7
	13	7	7		5	6
	14	8	7		6	6
9	36	7	8	8	6	7
	37	8	9		6	8
	38	8	9		6	8
	39	9	9		6	7
10	40	7	7	8	4	9
	41	8	8		7	8
	42	9	8		8	6
	43	5	8		7	6
	44	3	9		2	9
15	61	8	7	7	7	5
	62	8	8		7	6
	63	9	8		7	8
	64	7	8		6	7
17	69	8	7	5	7	5
	70	5	3		4	5
	71	8	5		6	6

## Item No. 6 (risky); subjects value risk

1	1	3	2	3	6	2
	2	5	6		7	6
	3	5	3		7	5
	4	4	4		6	5
	5	6	3		7	3
2	6	4	5	4	5	2
	7	3	4		9	4
	8	3	3		5	3
	9	8	3		10	5
	10	3	3		4	4
6	23	2	5	5	5	5
	24	3	3		1	5
	25	4	5		5	5
	26	1	4		2	5
	27	5	6		6	5

Group	Subject	P1	P2	G	M1	M2
7	28	1	1		4	7
	29	9	5		9	2
	30	2	1	3	6	6
	31	6	5		8	7
	32	5	5		6	2
8	33	5	4		10	5
	34	5	3	3	6	5
	35	3	5		5	5
11	45	4	8		6	8
	46	7	8	8	8	8
	47	4	8		5	5
12	48	1	1		5	1
	49	5	1		7	7
	50	1	1	1	7	3
	51	7	2		9	3
	52	1	1		5	2

Item No. 6 (risky); subjects value caution

3	11	8	6		7	6
	12	6	6	6	5	7
	13	5	6		4	7
	14	7	8		5	6
4	15	7	7		4	5
	16	8	8	7	7	8
	17	8	6		5	4
	18	5	9		2	8
5	19	4	4		5	6
	20	7	5	4	4	3
	21	7	7		4	4
	22	6	3		5	4
9	36	10	8		7	6
	37	9	5	6	6	8
	38	6	7		5	6
	39	5	5		4	6
10	40	5	3		1	5
	41	3	4		2	5
	42	5	5	4	3	3
	43	8	5		5	5
	44	8	3		6	7
13	53	8	8		5	7
	54	9	7	8	7	6
	55	8	8		6	8

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